

(12) PETTY PATENT APPLICATION
(19) AUSTRALIAN PATENT OFFICE

(11) Application No. AU 199539191 A1
(10) Patent No. 672737

(54) Title
Safety Stirrup

(51) International Patent Classification(s)
B68C 003/02

(21) Application No: 199539191

(22) Date of Filing: 1995.12.01

(43) Publication Journal Date: 1996.10.10

(44) Accepted Journal Date: 1996.10.10

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672737

P/00/002
Section 29

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PATENT REQUEST: PETTY PATENT

I being the person identified below as the Applicant, request the grant of a patent to the persons identified below as the Nominated Persons, for an invention described in the accompanying Petty complete specification.

Full application details follow.

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DATED THIS Twenty-fifth DAY OF July 1996.

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FEE: AS

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NOTICE OF ENTITLEMENT

I KEVIN M. PULLEN of Pizzeys Patent and Trade Mark Attorneys of Level 6, 444 Queen Street, Brisbane, Queensland, 4000, Australia, being the agent for the applicant in respect of Petty Patent Application No. 39191/95 state the following:

1. The persons nominated for the grant of the patent are the Assignees of the actual inventor.

DATED THIS 15TH DAY OF July 1996.

.....
Kevin M. Pullen
Agent for the applicant



AU9539191

(12) PATENT ABRIDGMENT (11) Document No. AU-B-39191/95
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 672737

(Australian Petty Patent)

(54) Title
SAFETY STIRRUP

International Patent Classification(s)
(51)^e B68C 003/02

(21) Application No. : 39191/95

(22) Application Date : 01.12.95

(43) Publication Date : 10.10.96

(45) Publication Date of Granted Application : 10.10.96

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(56) Prior Art Documents
US 5058366
US 4955226
EP 199628

(57) Claim

1. A safety stirrup comprising an inverted generally U-shaped mounting member adapted for mounting to a stirrup strap and having two opposed spaced apart shank portions, wherein each of said shank portions are pivotally attached to a foot support member extending between said spaced apart shank portions, said foot support member being detachable from said shank members upon pivoting of said foot support member about an axis extending between said shank members to a predetermined angle.

"SAFETY STIRRUP"

This invention relates to safety stirrups.

It is well known that a rider who has been thrown or has fallen from a horse can be dragged by the horse if both feet do not escape from the stirrups. Dragging usually occurs because the rider's foot moves forwardly through the stirrup such that the rider's ankle is held in the stirrup and withdrawal of the leg from the rider's fallen position is prevented by engagement of the rider's foot on the forward side of the stirrup.

Many attempts have been made to overcome this problem. One presently available safety stirrup has the stirrup shank forwardly curved on its outer side between the foot rest and the connection to the stirrup strap. This forward curve allows the rider's foot to escape more easily from the stirrup in a sideways movement in the event of a fall. However, while such safety stirrups do appear to reduce the likelihood of a rider's foot moving forwardly through the stirrup during a fall, when it does do so, the rider becomes trapped and dragging may occur.

Another known safety stirrup has dispensed with a part of the outer side of the shank altogether and thus allows easier sideways escape. However, such stirrups still trap the rider if a foot does move forwardly through the stirrup during a



fall.

Furthermore, the known safety stirrups have the obvious appearance of safety stirrups and riders using such safety stirrups suffer from intimidation and abuse from other
5 riders. This is particularly the case with young riders.

The present invention aims to alleviate at least one of the aforementioned disadvantages and to provide a safety stirrup which will be reliable and efficient in use.

With the foregoing in view this invention in one aspect
10 resides broadly in a safety stirrup comprising an inverted generally U-shaped mounting member adapted for mounting to a stirrup strap and having two opposed spaced apart shank portions, wherein each of said shank portions are pivotally attached to a foot support member extending between said
15 spaced apart shank portions, said foot support member being detachable from said shank members upon pivoting of said foot support member about an axis extending between said shank members to a predetermined angle.

Preferably, the predetermined angle is an angle between the
20 normal riding angle and the angle to which the support means would pivot if the rider was in a fallen attitude. Preferably the angle is greater than any angle to which the support means is likely to move in normal operation. It is also preferred that the mounting means cooperates with the



support means in such manner that continued pivoting of the support means is operative to force the support means to a detached position. Preferably the support means is pivotal to one side of the normal riding position only whereby the stirrup strap can be twisted to present the forward side of the stirrup to the rider for mounting the horse if desired, thus eliminating any chance of the support means detaching during mounting.

Preferably, the safety stirrup simulates a non-safety stirrup. For this purpose it is preferred that the support means has substantially the same appearance as the support means of a normal non-safety stirrup and the mounting means also has substantially the appearance of the mounting means of a normal non-safety stirrup and that the mounting means is operatively connected in such manner that it is not readily apparent to other riders when in use.

In order that this invention may be more readily understood and put into practical effect, reference will now be made to the accompanying drawings which illustrate a preferred embodiment of the invention and wherein:

Fig. 1 is a pictorial representation of a safety stirrup according to the invention in a disassembled state.

Fig. 2 is an elevation of the stirrup of Fig. 1 in an assembled state.



Fig. 3 is an elevation of part of the foot support of the stirrup of Fig. 1.

Fig. 4 is an end elevation of the foot support of Fig. 3.

Fig. 5 is an elevation of part of the shank of the stirrup of Fig. 1.

Fig. 6 is an end elevation of the shank of Fig. 5.

The safety stirrup 10 illustrated in the drawings includes a shank 11 which is selectively detachable from a foot support 12 and includes an aperture 15 for connection to a stirrup strap of known form. The shank 11 has two opposed spaced apart shank arms 13 and 14 which have the appearance of any one of a number of commonly known non-safety stirrups. At their lower ends the shank arms 13 and 14 form relatively wide mounting portions 16 and 17 to which the foot support 12 is mounted via the upstanding posts 18 and 19 respectively. The shank arms 13 and 14 include thickened portions 13a and 14a respectively which engage about the upper edges of the posts 18 and 19 and suitably assist in giving the appearance of an integrally formed stirrup.

The posts 18 and 19 which are more clearly illustrated in Figs. 3 and 4 include an engagement portion 21 in the form of



substantially half an annular ring of square cross section projecting inwardly from the inner face thereof to define a centre space 23 and having an axis 20. The engagement portion is arranged such that the two ends are disposed substantially vertically one below the other. The cross section of the lower end of the engagement portion is wider in a radial direction providing a shoulder which forms a stop 22.

The mounting portions 16 and 17 are identical and the description following is applicable to both. The mounting portion 16,17 includes a recessed portion 24 at its lower end. A part annular groove 25 extends into the mounting portion from the recessed portion and defines a lug 27 of substantially circular cross section which is adapted to partially engage in the centre space 23. The engagement portion 21 is adapted to engage in the part annular groove 25 coincidentally with engagement of the lug 27 in centre space 23.

The recessed portion 24 forms a forward shoulder 26 adjacent the entry to the groove 25 and a rearward shoulder 28 approximately diametrically opposite and beyond the lug 27. The shoulder 26 is adapted to abut the stop portion 22 upon pivoting of the shank 11 relative to the foot support 12 to the normal riding position.

25 In use, the safety stirrup can be assembled by positioning



the shank 11 at approximately 60° from the normal in-use position and then moving the shank so that the upper ends of the engagement portions 21 are received in their respective grooves 25. Pivoting of the shank 11 relative to the foot support substantially about axis 20 then causes the engagement portions 21 to move into the groove 27 until the stop portion 22 engages the shoulder 26 which occurs when the shank 11 reaches the normal position, that is at substantially 90° to the foot support. In this assembled state the safety stirrup is suitable for use. When a rider falls from the horse, the foot support 12 is caused to pivot downwardly about the axis 20 by engagement of the rider's foot or leg with the foot support such that the engagement portion 21 escapes from the groove 25 and the foot support detaches from the shank 11. If the foot support does not immediately detach from the shank continued pivoting brings the shoulder 29 into engagement with the rearward shoulder 28 which assists in forcing the posts 18 away from the mounting portions 16 and 17.

Whilst the embodiment illustrates the engagement portion 21 provided on the posts 18 and the recess 24 and groove 25 provided on the shank arms 13 and 14, it will be appreciated that this arrangement could be reversed. It will also be appreciated that whilst an angle of pivot in the order of 60 degrees is preferred for detachment to occur, differently shaped stirrups may require different detachment angles.



Furthermore, in this and other embodiments a chain, strap or the like may be connected between the foot support and the shank to prevent loss of the foot support upon detachment from the shank.

- 5 It will of course be realised that the above has been given only by way of illustrative example of the invention and that all such modifications and variations thereto as would be apparent to persons skilled in the art are deemed to fall within the broad scope and ambit of the invention as defined
- 10 in the following claims.

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THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. A safety stirrup comprising an inverted generally U-shaped mounting member adapted for mounting to a stirrup strap and having two opposed spaced apart shank portions, wherein each of said shank portions are pivotally attached to a foot support member extending between said spaced apart shank portions, said foot support member being detachable from said shank members upon pivoting of said foot support member about an axis extending between said shank members to a predetermined angle.
2. A safety stirrup as defined in claim 1, wherein each of said shank members is pivotally attached to said foot support member by a pivoting means, said pivoting means comprising:
- a. a protuberance in the form of substantially half an annular ring; and
 - b. a complementary recess adapted to slidably receive said annular ring, said recess opening towards the free end of each of said shank members to allow release of said protuberance from said recess for detachment of said foot support member from each of said shank members.



3. A safety stirrup as defined in claim 2 wherein said foot support member includes spaced apart mounting posts adapted to receive a user's foot therebetween and said protuberance or said complementary recess is provided on or in said mounting posts.

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DATED THIS TWENTY FIFTH DAY OF JULY 1996

ARTHUR NETTELFIELD
BY HIS ATTORNEYS
PIZZEYS PATENT AND TRADE MARK ATTORNEYS



39191/95

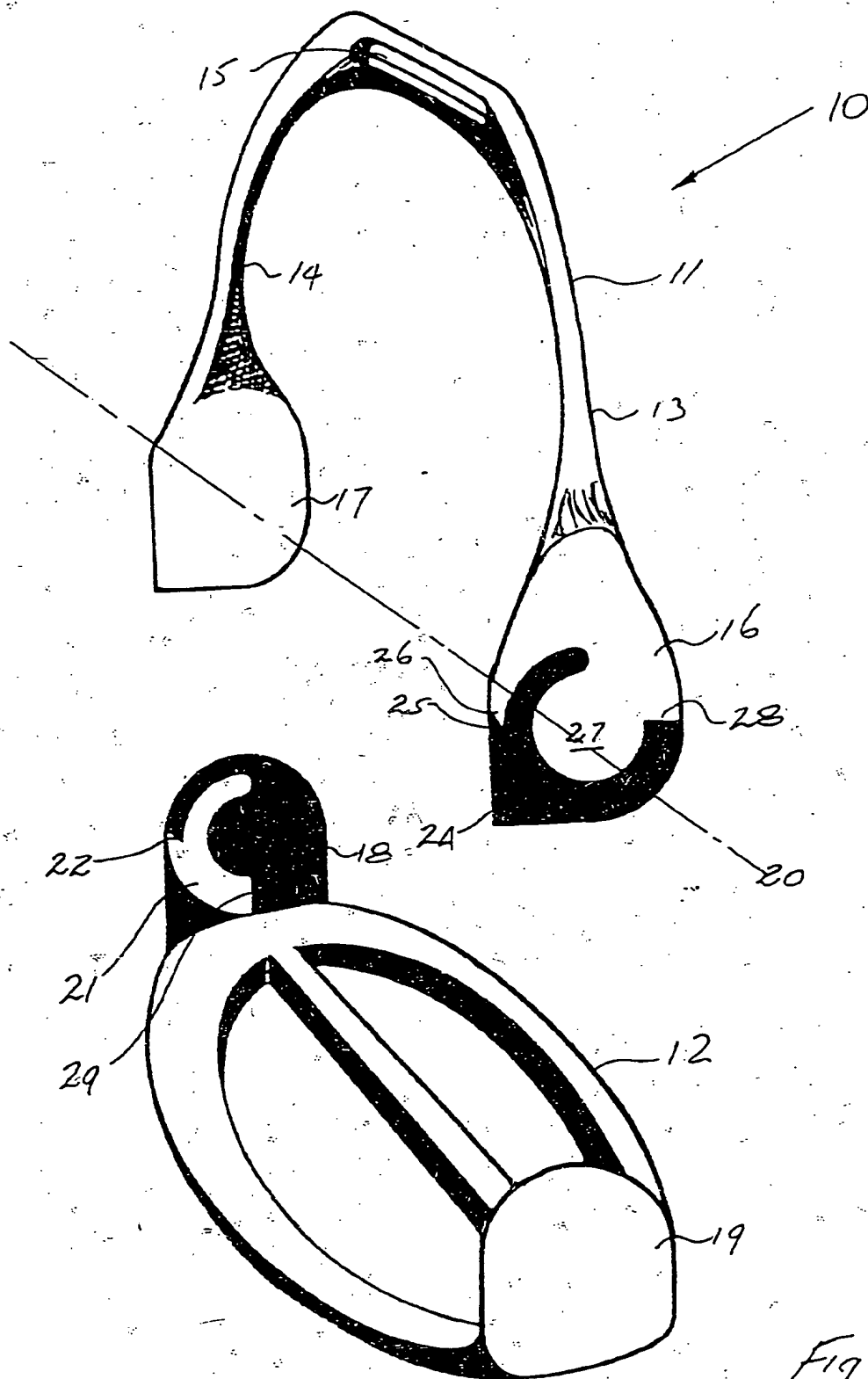


Fig 1

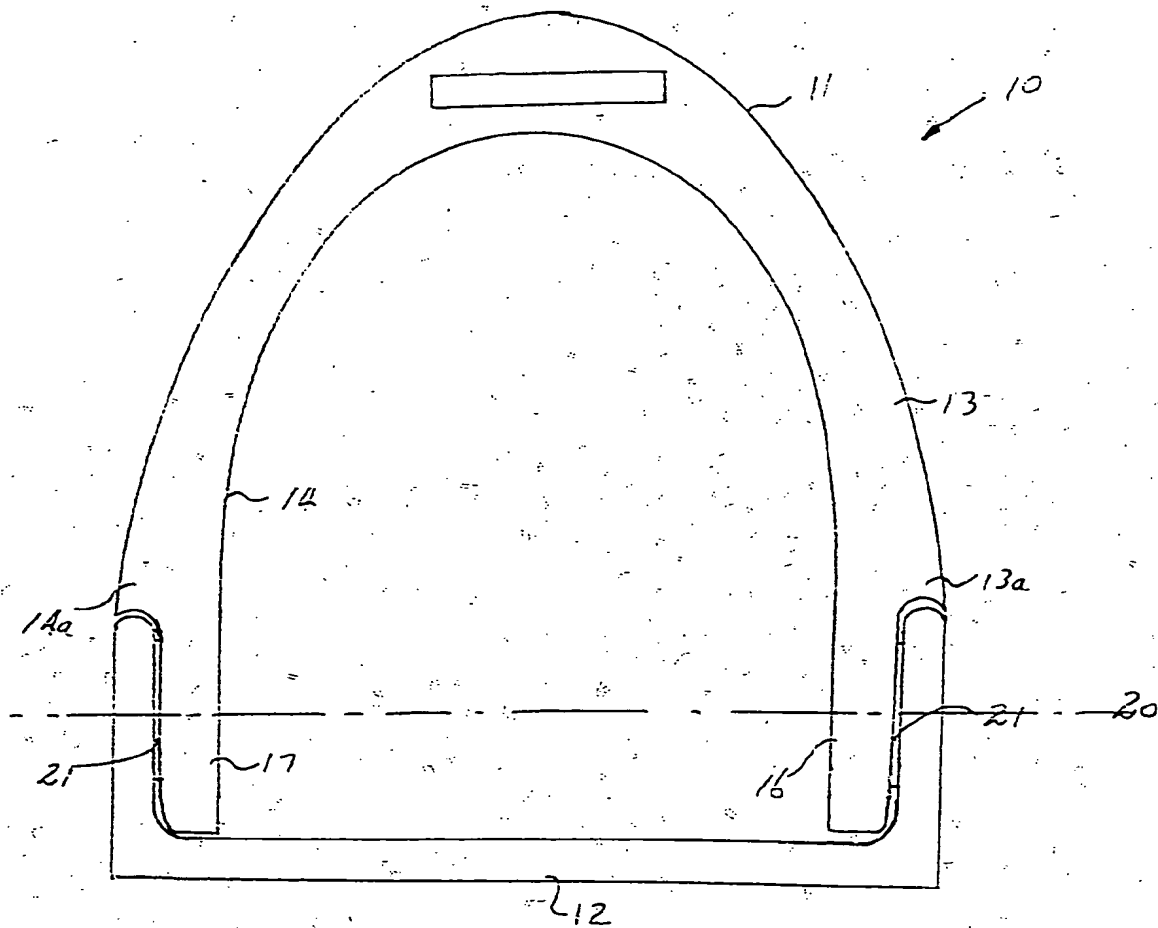


Fig 2

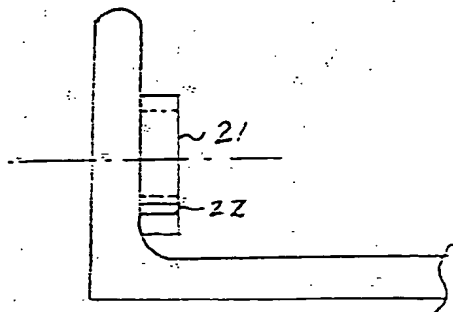


Fig 3

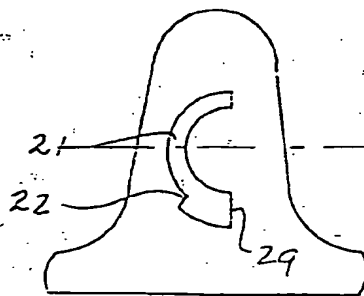


Fig 4

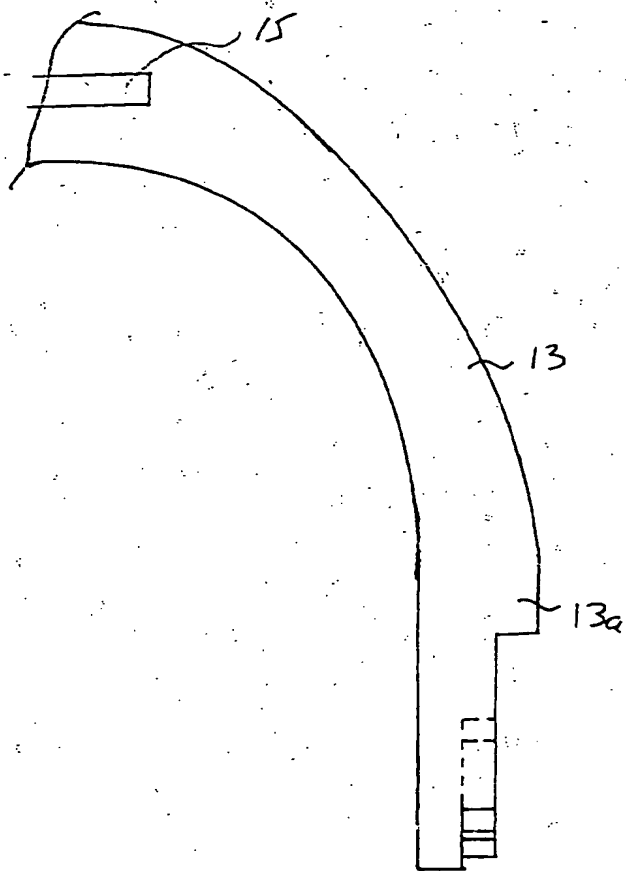


Fig 5

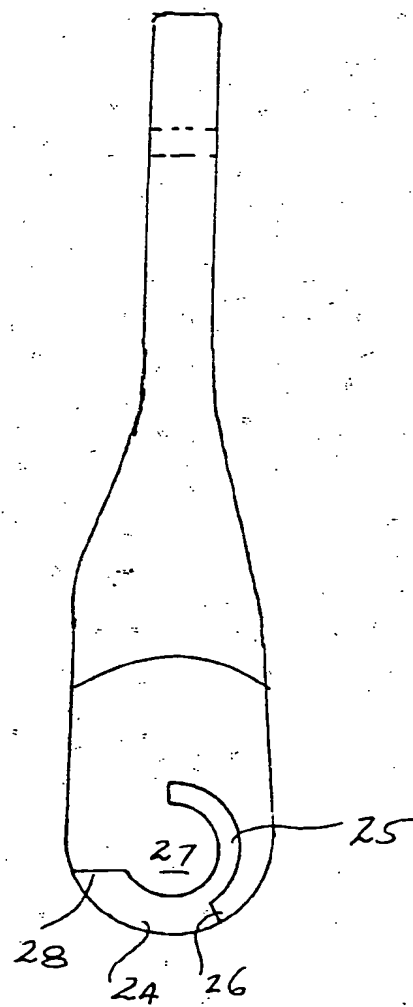


Fig 6

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